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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/904,511	07/16/2001	Keitaro Aoshima	003510-103	2268

7590

01/17/2003

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EXAMINER

WALKE, AMANDA C

ART UNIT	PAPER NUMBER
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1752

DATE MAILED: 01/17/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/904,511

Applicant(s)

AOSHIMA, KEITARO

Examiner

Amanda C Walke

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☒ Claim(s) 3 and 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: On page 11, line 21, there should be a comma after "R7". On page 22, sections (2) and (3), "Sulfoneamide" should be "sulfonamide". On page 25 there is an extra space.

Appropriate correction is required.

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

3. Claim 3 is objected to because of the following informalities: In line 5, it appears that there should be a "radical" after "reaction with the generated" as in claim 11. Appropriate correction is required.

4. Claim 9 is objected to because of the following informalities: In line 15, "hardend" should be "hardened". Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hattori et al (5,773,194) in view of Sheriff et al (6,117,610).

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****NOTE: The present claims 1-8 are drawn towards a negative planographic printing plate.

However, it is clear from the description of the recording layer in the specification and in the claims that the claims are specifically drawn to a non-imaged composition coated onto a substrate (i.e. plate precursor). This was how the claims were interpreted during the examination.

Additionally, with respect to the present claims 9-16, the claims are drawn to a method of forming a printing plate comprising exposing a material wherein the solubility of the layer in the exposed portions is decreased with respect to an alkali developer and then is developed employing "a developer". From reading the specification (especially page 53, paragraph 3), it is clear that the invention is limited to the layer being developed with an alkali developer only, therefore the developer employed in the developing step is an alkali developer. This was how the claim was interpreted during the examination.

Lastly, with respect to the optical density limitation, after reading the specification (specifically pages 8 and 13), it is clear that the present invention is limited to the optical density being the optical density of the non-imaged layer coated on the substrate, thus this was how the claims were interpreted during the examination.

Hattori et al disclose a light-sensitive composition for a presensitized lithographic printing plate, the composition comprising a monomer containing at least one polymerizable double bond, a photopolymerization initiator, and a binder polymer. The polymers described by the reference suitable for use as the monomer containing at least one polymerizable double bond are similar to those described by the present specification as suitable for use as the polymerizable compound (column 9, line 31 to column 11, line 10). The photopolymerization initiators are preferably onium salts (column 11, lines 12-39 and column 12, line 9 – column 14, line 40). The

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composition may also comprise a polymeric binder in combination with the other additives. The light sensitive composition may contain a dye such as dyes or sensitizers that absorb near-IR light. Suitable dyes include cyanine derivatives, pyrilium derivatives, and squarium derivatives although other known compounds may be employed as well (column 18, lines 7-44). The composition is a negative working one meaning that upon exposure, the portion of the composition that is exposed by the light/heat source undergoes polymerization and is hardened and are insoluble in alkali developer (column 21, lines 22-31 and column 27, lines 57-64).

With respect to the present claim limitations with respect to the film hardness, firstly, the present claims 1 and 9 require that the of the upper portion of the recording layer after the reduction in solubility in an alkali developer (after exposure) is higher than the average hardness of the layer, although not specifically discussed by the reference, it is the position of the examiner that when exposed, the upper portion of the layer would inherently have a higher film hardness than the average because the upper portion receives a higher exposure to the light/heat than a portion farther away from the light/heat source (i.e. the "bottom" of the layer that is closer to the substrate), and thus there would be a higher degree of polymerization in that region which would make the film hardness higher there.

With respect to the limitations of the present claims 6 and 14, again although not specifically discussed by the reference, the reference employs the same types of polymerizable monomers, binder resins, infrared absorbers, and photopolymerization initiators, and is prepared by a similar method, thus it is the position of the examiner that when made, the imaged plate of the reference would have a film hardness falling within the presently claimed range absence evidence to the contrary.

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Although the reference discloses that infrared absorbing compounds may be employed, there is no teaching of a suitable amount.

Sheriff et al disclose an infrared sensitive imaging composition similar to that of the primary reference, and discloses that the suitable infrared absorbers include well known compounds such as carbon black, cyanine dyes, squilium dyes, and thiopyrilium dyes (column 6, lines 1-17). The reference teaches that the compounds should be present in the dried coated imaging layer an amount which gives the material an optical density of at least 0.05 to about 2.0, thus teaching that this is a conventionally preferred optical density target when adding such infrared absorbers (column 7, lines 50-57). This taught range encompasses and obviates the ranges presently claimed.

Therefore, given the teachings of the references, it would have been obvious to one of ordinary skill in the art to prepare the printing plate of Hattori et al choosing to add the infrared absorbers in the amount taught to be known and preferred in the art to achieve the preferred optical density target known in the art, with reasonable expectation of achieving a plate having excellent printing durability and sensitivity.

With respect to the limitations of the present claims 2 and 10, which require that the infrared absorbing agent is present in an amount such that ablation does not occur, the present specification teaches that the conditions where ablation would not occur is where the infrared absorbing compound is present in an amount to give the composition an optical density of between 0.4 to 2.0. Given that it would have been obvious to one of ordinary skill in the art to prepare the material of Hattori et al in view of Sheriff et al having an optical density within this

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range, it is the position of the examiner that when the optical density limitation is met, this limitation is also met.

7. Claims 7 and 15 are alternatively rejected under 35 U.S.C. 103(a) as being unpatentable over Hattori et al in view of Sheriff et al and Kobayashi (5,965,319).

Hattori et al and Sheriff et al have been discussed above, and although they list many conventional IR absorbers and teach that other known absorbers may be employed, they fail to specifically teach nickel thiolate.

Kobayashi discloses a negative imaging material suitable for use in a printing plate which comprises an infrared absorber. The suitable infrared absorbers are those conventionally employed in such materials and include cyanine dyes, thiopyrilium salts, pyrilium compounds, squarilium dyes, and nickel thiolate compounds which are the preferred compounds.

Given the teaching of Hattori et al that any known IR absorbing compound may be employed and the teaching of Kobayashi that preferred compounds known in the art include nickel thiolate, it would have been obvious to one of ordinary skill in the art to prepare the material of Hattori et al in view of Sheriff et al choosing to employ nickel thiolate as the infrared absorber compound as it is well known and preferred in the art, with reasonable expectation of achieving a plate having excellent printing durability and sensitivity.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Teng (6,242,156 and 6,495,310) are cited as being cumulative to the prior art presently relied upon. Aoshima(5,948,590), Kondo (5,725,994), Kobayashi (6,042,987), Kunita et al (6,083,658), Kunita (6,391,519 and machine translation of foreign priority document 2001-

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042538), and Hirai et al (6,174,646) are cited for their teachings of similar negative image forming materials. Goodin et al (5,194,365), and Roeschert et al (5,227,276 and 6,063,545) are cited for their teachings of similar negative materials containing onium salts and racially polymerizable compounds, but they are not IR sensitive and do not contain IR absorbers. Lastly, Denzinger et al (2002/0012877) and Banks et al (4,857,437) are cited for their teachings of image forming materials comprising additives similar to those presently claimed, but they solely disclose positive materials.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amanda C Walke whose telephone number is 703-305-0407. The examiner can normally be reached on M-R 5:30-4.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Janet Baxter can be reached on 703-308-2303. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Amanda C Walke
Examiner
Art Unit 1752


ACW

January 14, 2003


JANET BAXTER
SUPERVISOR, PATENT EXAMINER
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